

## WHAT IS CLAIMED IS:

1. A computer-readable medium having thereon computer-executable instructions for performing a method comprising:  
acquiring at least one raw network DNA component, each raw network DNA component corresponding to an attribute of a computer network;  
generating at least one derived network DNA component according to at least one derived network DNA component specification, at least one of said at least one derived network DNA component specification referencing at least one of said at least one raw network DNA component; and  
determining a network DNA for the computer network, the network DNA taxonomically classifying the computer network, and the network DNA comprising at least one of said at least one derived network DNA component.
2. The computer-readable medium of claim 1, wherein said at least one derived network DNA component comprises a network species component.
3. The computer-readable medium of claim 1, wherein at least one of said at least one derived network DNA component specification comprises a linear transformation of at least one value of at least one of said at least one raw network DNA component.
4. The computer-readable medium of claim 1, wherein said at least one derived network DNA component specification comprises a combination of said at least one raw network DNA component.

5. The computer-readable medium of claim 1, wherein at least one of said at least one derived network DNA component specification comprises a structured query language statement.

6. The computer-readable medium of claim 1, wherein at least one of said at least one derived network DNA component specification comprises an object oriented language statement.

7. The computer-readable medium of claim 1, wherein at least one of said at least one derived network DNA component specification comprises a scripting language statement.

8. The computer-readable medium of claim 1, wherein acquiring at least one raw network DNA component comprises acquiring a plurality of raw network DNA components in an order specified by a raw network DNA acquisition priority list.

9. The computer-readable medium of claim 8, wherein the order specified by the raw network DNA acquisition priority list is in accord with an ordered set of network DNA policies that reference the plurality of raw network DNA components.

10. The computer-readable medium of claim 1, wherein generating at least one derived network DNA component comprises generating each derived network DNA component referenced by a derived network DNA refresh list, the derived network DNA refresh list referencing at least one derived network DNA component dependent upon at least one acquired raw network DNA component.

11. The computer-readable medium of claim 1, wherein the method further comprises:

testing a network DNA policy condition of a network DNA policy for satisfaction, the network DNA policy condition referencing at least one of said at least one derived network DNA component; and

initiating an execution of a network DNA policy action of the network DNA policy if the network DNA policy condition of the network DNA policy is satisfied.

12. The computer-readable medium of claim 11, wherein the method further comprises testing whether sufficient network DNA referenced by the DNA network policy condition of the network DNA policy has been acquired.

13. The computer-readable medium of claim 11, wherein the network DNA policy reduces performance penalties when switching between computer networks.

14. The computer-readable medium of claim 11, wherein the network DNA policy reduces a probability of security vulnerability when switching between computer networks.

15. The computer-readable medium of claim 11, wherein the network DNA policy reduces a probability of user intervention when switching between computer networks.

16. A computer-readable medium having thereon computer-executable instructions for performing a method comprising determining a network DNA of a computer network, the network DNA comprising a network species component.

17. The computer-readable medium of claim 16, wherein determining the network DNA of the computer network comprises generating at least one derived network DNA component in accordance with at least one derived network DNA component specification, at least one of said at least one derived network DNA component specification referencing at least one acquirable attribute of the computer network.

18. The computer-readable medium of claim 16, wherein the network DNA further comprises a network name component, a network cost component, a core access component, a core addressing component, a network security component and a network technology component.

19. The computer-readable medium of claim 18, wherein the network technology component comprises at least one network operational attribute.

20. The computer-readable medium of claim 16, wherein the network species component is capable of indicating network species classifications, the network species classifications including enterprise network, home network and public place network, and determining the network species classifications comprises evaluating a function of, at least, a network security attribute of the computer network, a network management attribute of the computer network and a network addressing attribute of the computer network.

21. The computer-readable medium of claim 16, wherein the method further comprises:

testing a network DNA policy condition of a network DNA policy for satisfaction, the network DNA policy condition referencing at least one network DNA component; and

initiating an execution of a network DNA policy action of the network DNA policy if the network DNA policy condition of the network DNA policy is satisfied.

22. A computerized system, comprising:

at least one computer connected to at least one computer network; and

at least one network DNA store configured to store a network DNA for at least one of said at least one computer network, the network DNA taxonomically classifying said at least one of said at least one computer network, and the network DNA comprising at least one derived network DNA component.

23. The computerized system of claim 22, wherein said at least one network DNA store comprises a current network DNA store and a network DNA history store.

24. The computerized system of claim 22, wherein said at least one derived network DNA component comprises a network species component.

25. The computerized system of claim 22, further comprising a network DNA policy store configured to store at least one network DNA policy, at least one of said at least one network DNA policy referencing at least one of said at least one derived network DNA component of the network DNA.

26. The computerized system of claim 25, wherein each network DNA policy comprises a derived network DNA components dependency list that lists each derived network DNA component of the network DNA referenced by the network DNA policy.

27. The computerized system of claim 22, further comprising a network DNA policy enforcer configured to, at least:

test a network DNA policy condition of a network DNA policy for satisfaction, the network DNA policy condition referencing at least one of said at least one derived network DNA component; and

initiate an execution of a network DNA policy action of the network DNA policy if the network DNA policy condition of the network DNA policy is satisfied.

28. The computerized system of claim 27, wherein the network DNA policy condition of the network DNA policy is satisfied if an expression specified by the network DNA policy condition evaluates to Boolean true.

29. The computerized system of claim 27, wherein the network DNA policy condition of the network DNA policy is satisfied if an expression specified by the network DNA policy condition evaluates to Boolean false.

30. The computerized system of claim 27, wherein the network DNA policy condition of the network DNA policy is satisfied if evaluating an expression specified by the network DNA policy condition results in an evaluation error.

31. The computerized system of claim 27, wherein the network DNA policy enforcer is further configured to, at least, test whether sufficient network DNA referenced by the network DNA policy condition of the network DNA policy has been acquired.

32. The computerized system of claim 31, wherein:  
each network DNA component is associated with a confidence level; and

sufficient network DNA has been acquired for the network DNA policy if the confidence level of each network DNA component referenced by the network DNA policy condition of the network DNA policy is greater than zero.

33. The computerized system of claim 31, wherein:  
each network DNA component is associated with a confidence level; and

sufficient network DNA has been acquired for the network DNA policy if the confidence level of at least one network DNA component referenced by the network DNA policy condition of the network DNA policy is greater than a sufficient network DNA acquisition threshold.

34. The computerized system of claim 31, wherein:  
each network DNA component is associated with a confidence level; and

sufficient network DNA has been acquired for the network DNA policy if a statistical function of the confidence levels of each network DNA component referenced by the network DNA policy condition of the network DNA policy is greater than a sufficient network DNA acquisition threshold.



35. The computerized system of claim 22, further comprising a network DNA generator configured to, at least generate said at least one derived network DNA component according to at least one derived network DNA component specification, at least one of said at least one derived network DNA component specification referencing at least one raw network DNA component of the network DNA associated with the computer network.

36. The computerized system of claim 35, wherein the network DNA generator is further, at least, configured to maintain at least one derived-raw network DNA component dependency list, said at least one derived-raw network DNA component dependency list comprising, for each derived network DNA component generated by the network DNA generator, a list referencing each raw network DNA component referenced by each derived network DNA component specification associated with the derived network DNA component.

37. The computerized system of claim 35, wherein the network DNA generator is further, at least, configured to generate each derived network DNA component referenced by a derived network DNA refresh list, the derived network DNA refresh list referencing each derived network DNA component dependent upon a changed raw network DNA component.

38. The computerized system of claim 22, further comprising a network DNA acquirer configured to, at least, acquire a plurality of raw network DNA components in an order specified by a raw network DNA acquisition priority list, each



raw network DNA component corresponding to an attribute of said at least one computer network.

39. The computerized system of claim 38, wherein the order specified by the raw network DNA acquisition priority list is in accord with an ordered set of network DNA policies that reference the plurality of raw network DNA components.

40. A computer-readable medium having thereon a data structure comprising a network DNA of a computer network, the network DNA comprising a network species component capable of indicating network species classifications, the network species classifications including enterprise network, home network and public place network, and the network species classifications determined as a function of, at least, network security, network management and network addressing.

41. The computer-readable medium of claim 40, wherein the network species classifications are determined as a function of, at least, network security, network management, network addressing, network mobility, network connectivity and network technology.

42. The computer-readable medium of claim 40, wherein the network DNA further comprises a network name component, a network cost component, a core access component, a core addressing component, a network security component and a network technology component.

43. The computer-readable medium of claim 40, wherein the network DNA further comprises a confidence level for each network DNA component.

44. The computer-readable medium of claim 43, wherein:  
at least one value of at least one network DNA component is determined probabilistically; and  
the confidence level of said at least one network DNA component determined probabilistically corresponds to a margin of error in the determination.